

Daily Current Affairs

17 July 2026

India's First Hydrogen Fuel Cell Train

- India has taken a major step towards sustainable transportation with the development of its **first Hydrogen Fuel Cell Train**. The train has been designed using **indigenous technology** and supported by the country's hydrogen ecosystem based in **Jind, Haryana**. This initiative reflects India's commitment to adopting clean energy solutions while modernising its railway network.
- Unlike conventional diesel-powered trains, the Hydrogen Fuel Cell Train generates electricity onboard through hydrogen fuel cells. Hydrogen stored in specially designed tanks reacts with oxygen inside **Proton Exchange Membrane (PEM) Fuel Cells** to produce electricity. The only by-product of this process is **water vapour**, making the train an environmentally friendly mode of transport with almost zero carbon emissions.
- The train has the capacity to carry around **2,600 passengers** and is equipped with advanced multi-layer safety systems that comply with globally accepted standards, including **NFPA-2** and the **ISO 19880 series**. The hydrogen system also meets safety regulations prescribed by the **Petroleum and Explosives Safety Organisation (PESO)**.
- India has already electrified more than **99% of its broad-gauge railway network**, significantly reducing dependence on diesel locomotives. The introduction of hydrogen-powered trains further strengthens this transition by reducing emissions, promoting renewable energy, and demonstrating India's technological capabilities in clean transportation.
- The project represents an important milestone in achieving India's climate goals and promoting sustainable mobility for future generations.
- **Key Facts**
 - **Project:** India's First Hydrogen Fuel Cell Train
 - **Technology:** Proton Exchange Membrane (PEM) Fuel Cell
 - **Passenger Capacity:** Around 2,600
 - **Hydrogen Ecosystem:** Jind, Haryana
 - **By-product:** Water Vapour
- **Objective:** Clean and Sustainable Rail Transport



India Reaffirms Support for Palestine's Full Membership in the United Nations

- India has once again expressed its strong support for **Palestine's bid for full membership in the United Nations**, reaffirming its long-standing commitment to a peaceful resolution of the West Asian conflict. During international meetings held in **Brussels** and **New York**, India reiterated its support for the **two-state solution**, which envisions Israel and Palestine coexisting as independent and peaceful nations.
- External Affairs Minister **Dr. S. Jaishankar** also announced a new package of humanitarian and developmental assistance for Palestine. As part of this initiative, India will establish a **Specialty Medical Hospital**, an **Artificial Limb Fitting Centre**, and an **Institute for Vocational Training** to improve healthcare and skill development opportunities for the Palestinian people.
- India further pledged continued assistance to the **United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)**. The agency provides vital services such as education, healthcare, social welfare, relief assistance, and emergency humanitarian support to Palestinian refugees.
- India has consistently advocated peaceful dialogue, humanitarian cooperation, and respect for international law in addressing the Israel-Palestine issue. The latest announcement reflects India's balanced foreign policy and its commitment to promoting peace, stability, and human development in the region.

Key Facts

- **Country Supported:** Palestine

- **Indian Position:** Support for Full UN Membership
- **Indian Assistance:** Hospital, Artificial Limb Centre, Vocational Institute
- **Indian Minister:** Dr. S. Jaishankar
- **UN Agency Supported:** UNRWA



Government Plans Amendment to Protect 'Vande Mataram' Under National Honour Law

- The Central Government is preparing to introduce the **Prevention of Insult to National Honour (Amendment) Bill** during the **Monsoon Session of Parliament**, scheduled to begin on **20 July 2026**. The proposed legislation seeks to extend legal protection to '**Vande Mataram**', making deliberate insults or obstruction of its singing a punishable offence.
- At present, the **Prevention of Insult to National Honour Act** provides protection to the National Flag, National Anthem, and other important national symbols. The proposed amendment aims to include *Vande Mataram* within the scope of this legislation, recognising its historic contribution to India's freedom movement.
- The initiative follows an earlier advisory issued by the **Ministry of Home Affairs (MHA)** encouraging the singing or playing of *Vande Mataram* during official functions alongside the National Anthem.
- Before becoming law, the Bill must pass through the standard legislative process, including introduction in the Lok Sabha, debate, approval by both Houses of Parliament, Presidential assent, and official notification.
- The proposal highlights the government's emphasis on preserving national symbols and strengthening awareness of India's cultural and historical heritage.

- **Key Facts**
- **Proposed Bill:** Prevention of Insult to National Honour (Amendment) Bill
- **Objective:** Legal protection for *Vande Mataram*
- **Session:** Monsoon Session 2026
- **Ministry:** Ministry of Home Affairs

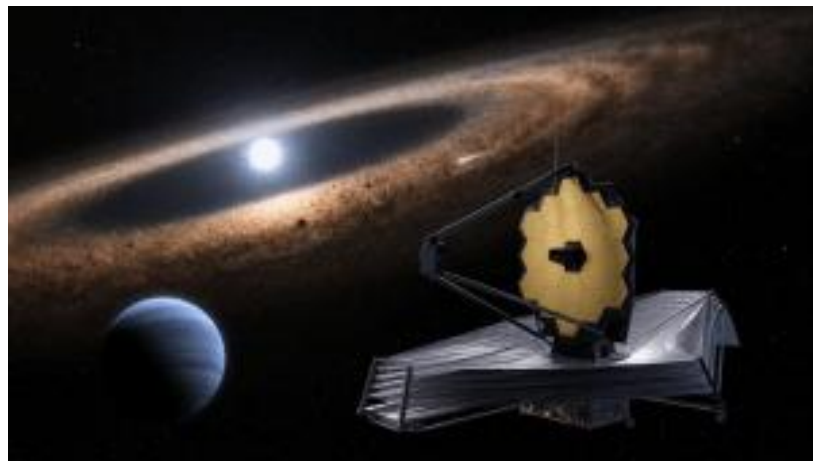


NASA's James Webb Telescope Discovers New Exoplanet in the Beta Pictoris System

- Astronomers have discovered a new exoplanet, **Beta Pictoris d**, using observations from **NASA's James Webb Space Telescope** and the **European Southern Observatory's Very Large Telescope** in Chile. The discovery adds another important member to the well-known **Beta Pictoris** planetary system.
- Located approximately **63 light-years from Earth**, Beta Pictoris is a relatively young star system estimated to be around **23 million years old**. Scientists had previously identified two giant planets—**Beta Pictoris b** and **Beta Pictoris c**—orbiting the star. The newly discovered Beta Pictoris d is now the third known planet in the system.
- Unlike many exoplanets detected through brightness measurements, Beta Pictoris d was identified using the chemical signature of **carbon monoxide** in its atmosphere. Researchers employed the **Near-Infrared Spectrograph Integral Field Unit (NIRSpec IFU)** aboard the James Webb Space Telescope to analyse its atmospheric composition.
- The planet is estimated to have a mass between **two and 2.4 times that of Jupiter** and orbits its host star at a distance of about **30 astronomical units**. It is

also significantly fainter than Beta Pictoris b, making its detection an important achievement in modern astronomy.

- This discovery demonstrates the growing capabilities of next-generation space telescopes in studying distant planetary systems and understanding how planets form and evolve.
- **Key Facts**
- **Exoplanet:** Beta Pictoris d
- **Distance from Earth:** 63 Light-years
- **Discovery Instruments:** James Webb Space Telescope & VLT
- **Estimated Mass:** 2–2.4 Jupiter Masses
- **Star System Age:** 23 Million Years



Indian Navy Receives Another MH-60R Seahawk Helicopter

- The **Indian Navy** has strengthened its maritime aviation capability with the delivery of another **MH-60R Seahawk** helicopter in **Kochi**. This brings the total number of inducted helicopters to **21 out of 24** ordered from the **United States**, with the remaining aircraft expected by the end of 2026.
- Developed by **Lockheed Martin**, the MH-60R Seahawk is among the world's most advanced multi-role naval helicopters. It is designed for **anti-submarine warfare (ASW)**, **anti-surface warfare (ASuW)**, search and rescue operations, surveillance, and special missions.
- India signed the procurement agreement in **February 2020** under the **United States Foreign Military Sales (FMS) programme** at a cost of approximately **USD 2.6 billion**. The helicopters were formally inducted into **INAS 334** at **INS Garuda, Kochi**, in March 2024.
- To ensure long-term operational readiness, India also signed a **₹7,995 crore sustainment package** covering maintenance, spare parts, logistics support, and

technical services. The Navy is further considering additional orders, as its long-term requirement exceeds **100 helicopters**.

- The induction of the MH-60R fleet significantly enhances India's maritime surveillance and anti-submarine warfare capabilities, particularly in the Indian Ocean Region.
- **Key Facts**
- **Helicopter:** MH-60R Seahawk
- **Manufacturer:** Lockheed Martin
- **Role:** Multi-role Naval Helicopter
- **Total Ordered:** 24
- **Inducted:** 21
- **Procurement Value:** USD 2.6 Billion
- **Indian Squadron:** INAS 334, INS Garuda, Kochi



REVIEW QUESTIONS

1. India's first Hydrogen Fuel Cell Train has been developed using indigenous technology with the support of the hydrogen ecosystem located in:

- A) Pune, Maharashtra
- B) Jind, Haryana
- C) Ahmedabad, Gujarat
- D) Bhopal, Madhya Pradesh

Answer: B) Jind, Haryana

2. What is the only by-product produced by India's Hydrogen Fuel Cell Train during its operation?

- A) Carbon Dioxide
- B) Nitrogen Gas
- C) Water Vapour
- D) Hydrogen Sulphide

Answer: C) Water Vapour

3. India reaffirmed its support for Palestine's application for full membership in which international organization?

- A) G20
- B) BRICS
- C) United Nations (UN)
- D) Commonwealth of Nations

Answer: C) United Nations (UN)

4. As part of its new humanitarian assistance package, India announced the establishment of all the following in Palestine EXCEPT:

- A) Specialty Medical Hospital
- B) Artificial Limb Fitting Centre
- C) Institute for Vocational Training
- D) Space Research Centre

Answer: D) Space Research Centre

5. The proposed Prevention of Insult to National Honour (Amendment) Bill seeks to provide legal protection to which patriotic song?

- A) Sare Jahan Se Achha**
- B) Ae Mere Watan Ke Logon**
- C) Vande Mataram**
- D) Jana Gana Mana**

Answer: C) Vande Mataram

6. Beta Pictoris d, recently discovered by NASA's James Webb Space Telescope, is a:

- A) Black Hole**
- B) Dwarf Planet**
- C) Exoplanet**
- D) Asteroid**

Answer: C) Exoplanet

7. Approximately how far is the Beta Pictoris star system located from Earth?

- A) 23 Light-years**
- B) 45 Light-years**
- C) 63 Light-years**
- D) 120 Light-years**

Answer: C) 63 Light-years

8. The MH-60R Seahawk helicopter inducted into the Indian Navy is primarily designed for:

- A) Strategic Airlift Operations**
- B) Maritime Multi-role Operations including Anti-Submarine Warfare**
- C) Ballistic Missile Defence**
- D) Airborne Early Warning Missions**

Answer: B) Maritime Multi-role Operations including Anti-Submarine Warfare

9. India signed the contract to procure 24 MH-60R Seahawk helicopters under which programme?

- A) Make in India Programme**
- B) Defence Acquisition Procedure (DAP)**
- C) United States Foreign Military Sales (FMS) Programme**
- D) Defence Technology and Trade Initiative (DTTI)**

Answer: C) United States Foreign Military Sales (FMS) Programme

10. The Hydrogen Fuel Cell Train generates electricity through which type of fuel cell technology?

- A) Solid Oxide Fuel Cell (SOFC)**
- B) Alkaline Fuel Cell (AFC)**
- C) Proton Exchange Membrane (PEM) Fuel Cell**
- D) Molten Carbonate Fuel Cell (MCFC)**

Answer: C) Proton Exchange Membrane (PEM) Fuel Cell